

FIG. 1

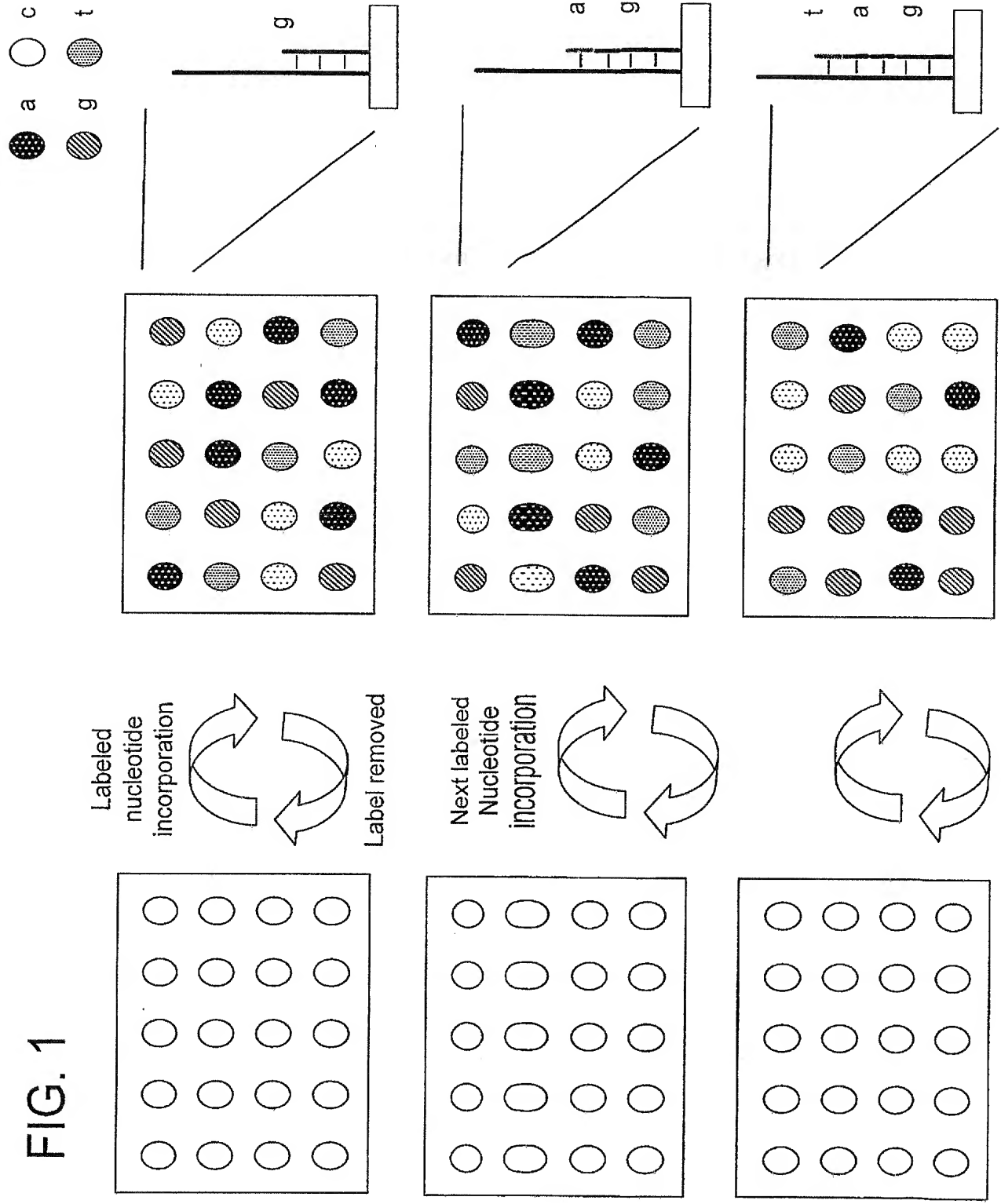
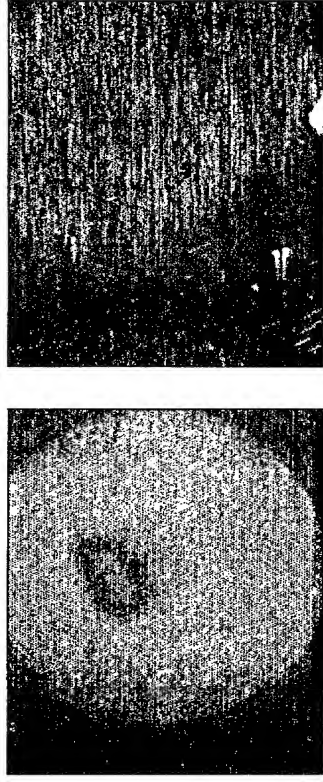
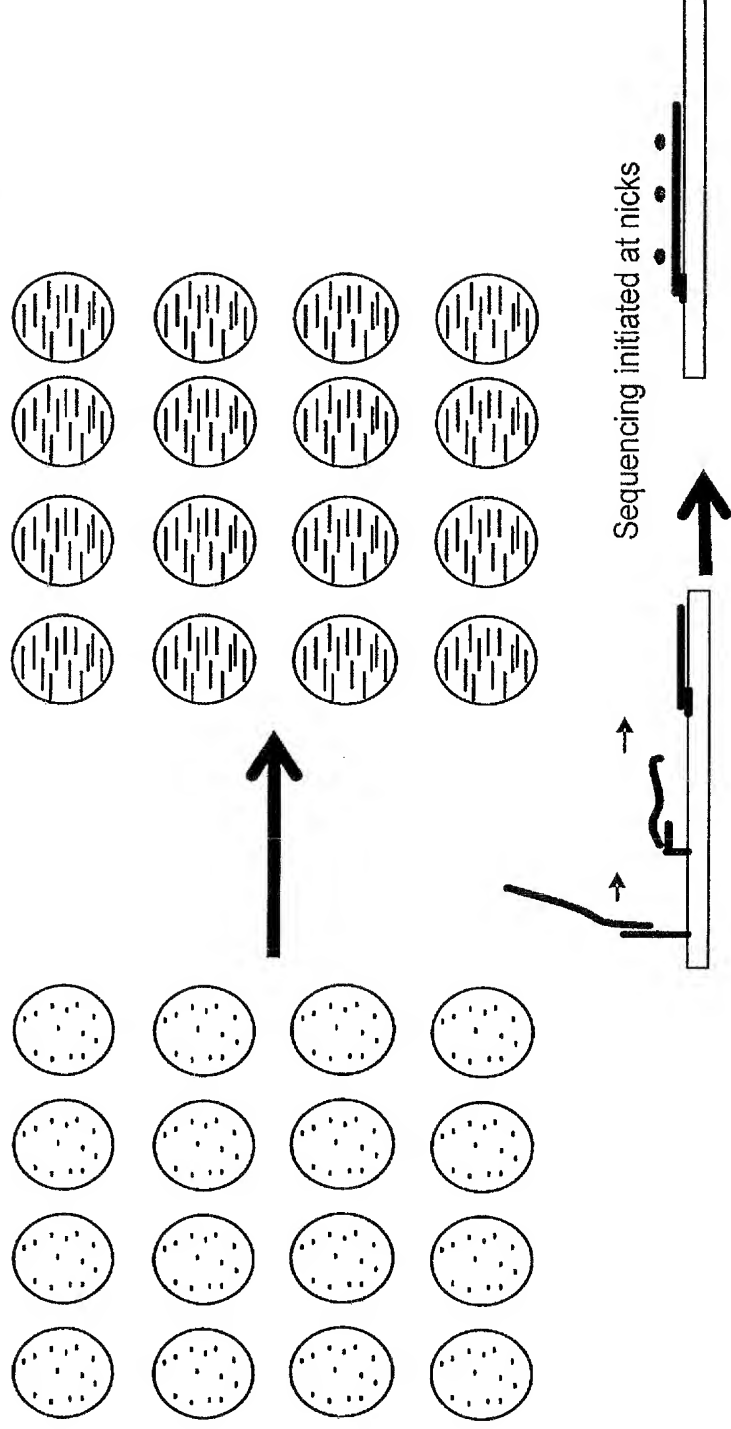


FIG. 2



40x and 100x magnification showing combed DNA



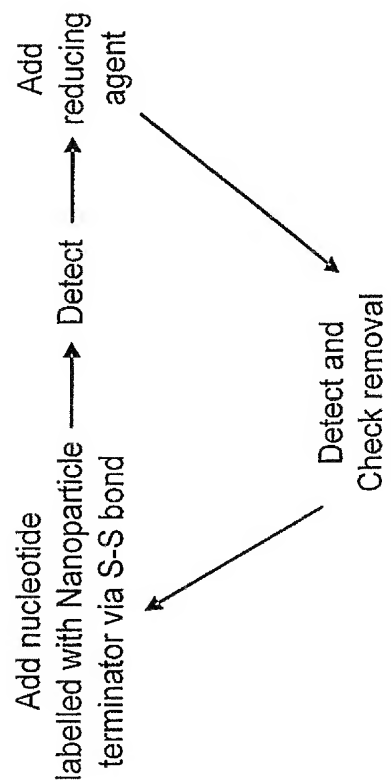
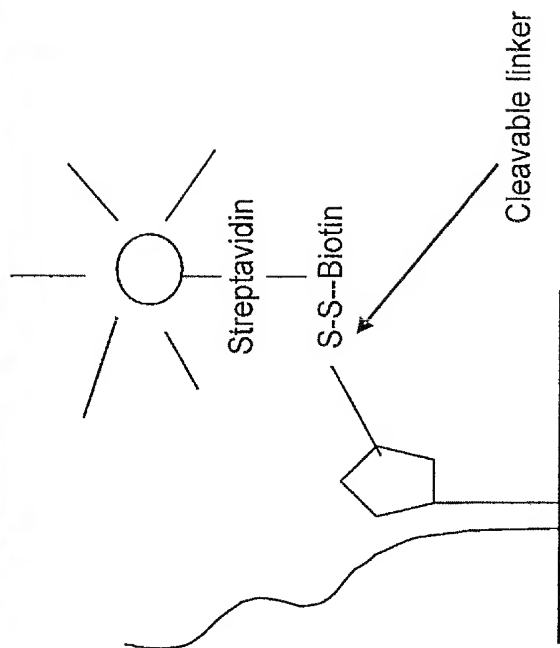
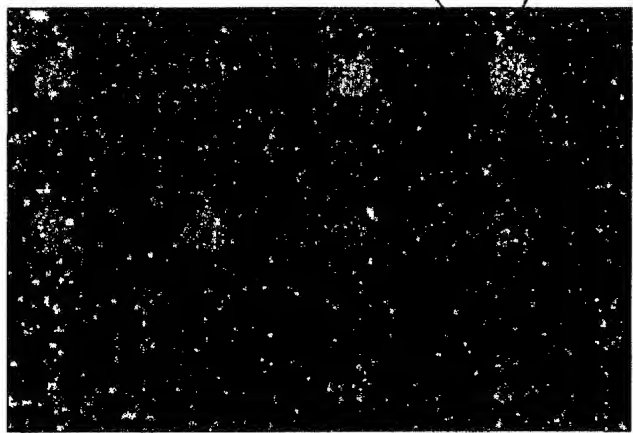
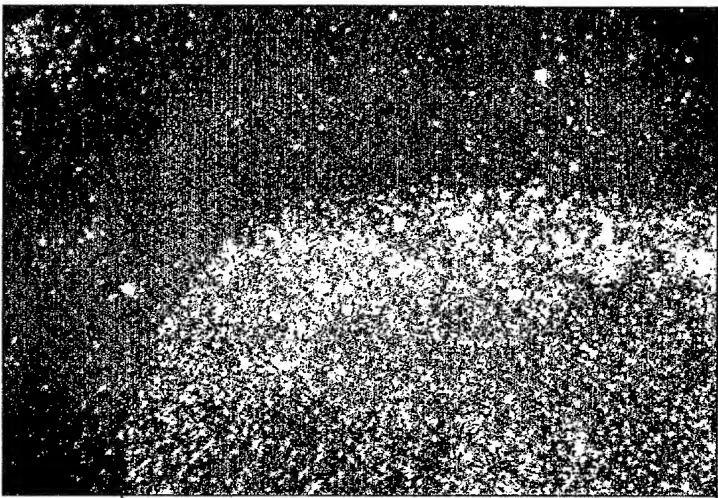


FIG. 3

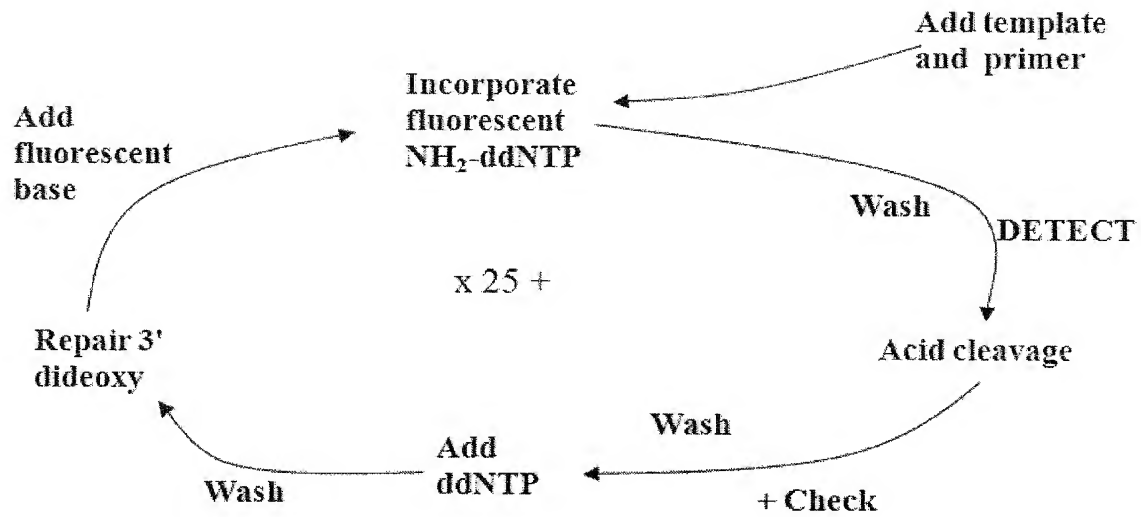


FIG. 4A

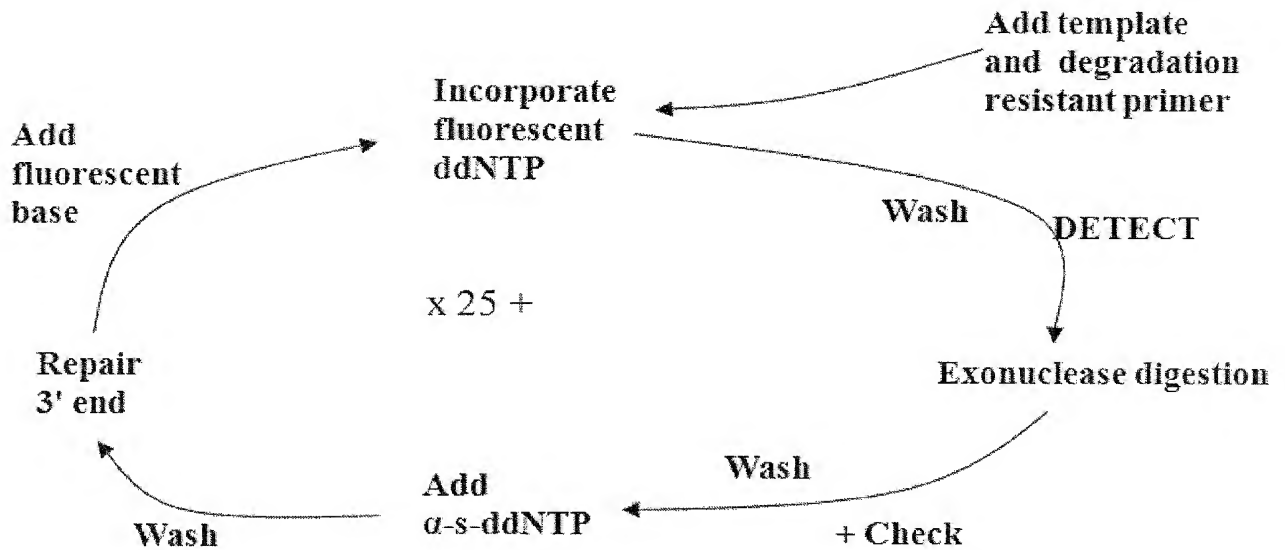
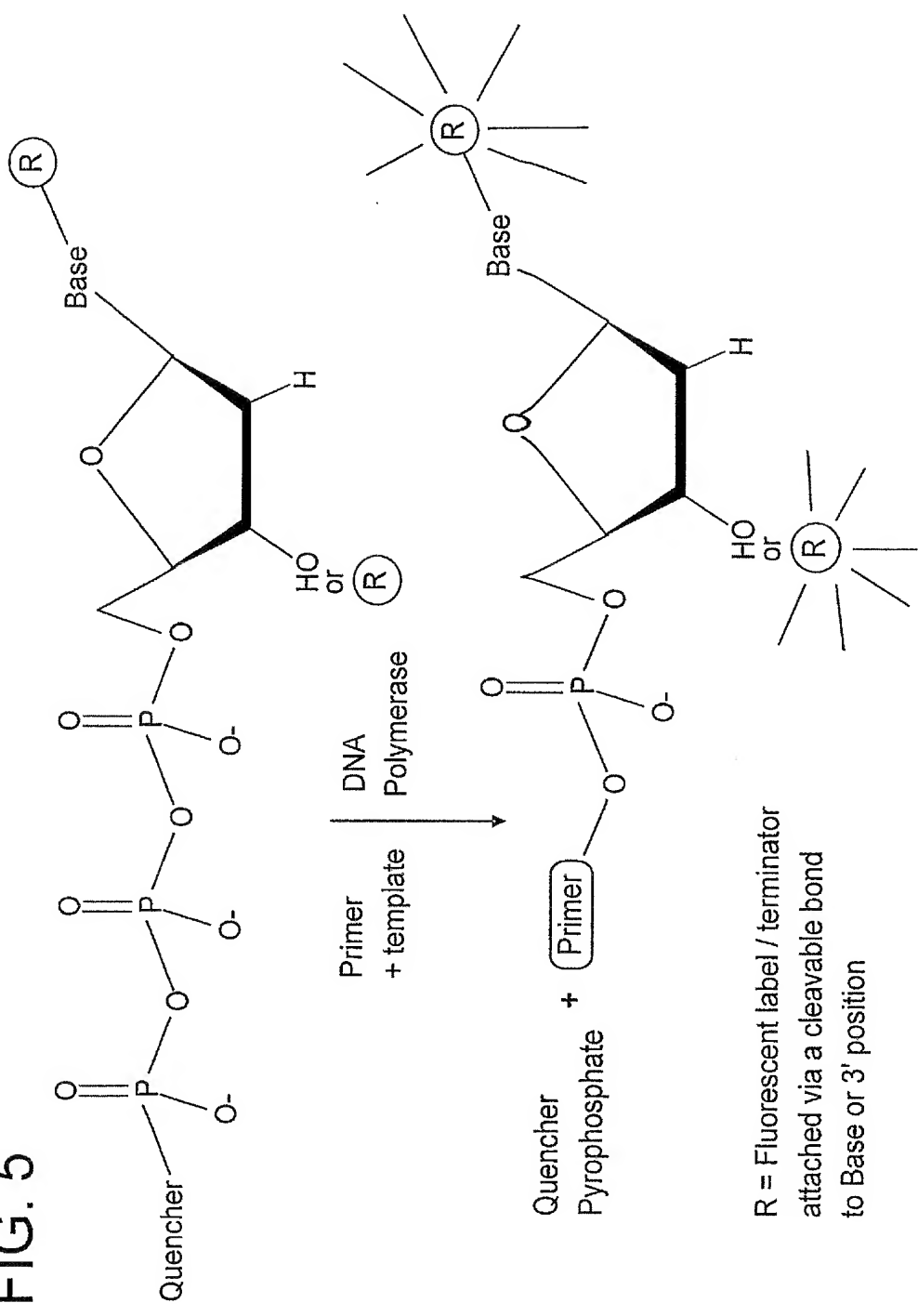


FIG. 4B

FIG. 5

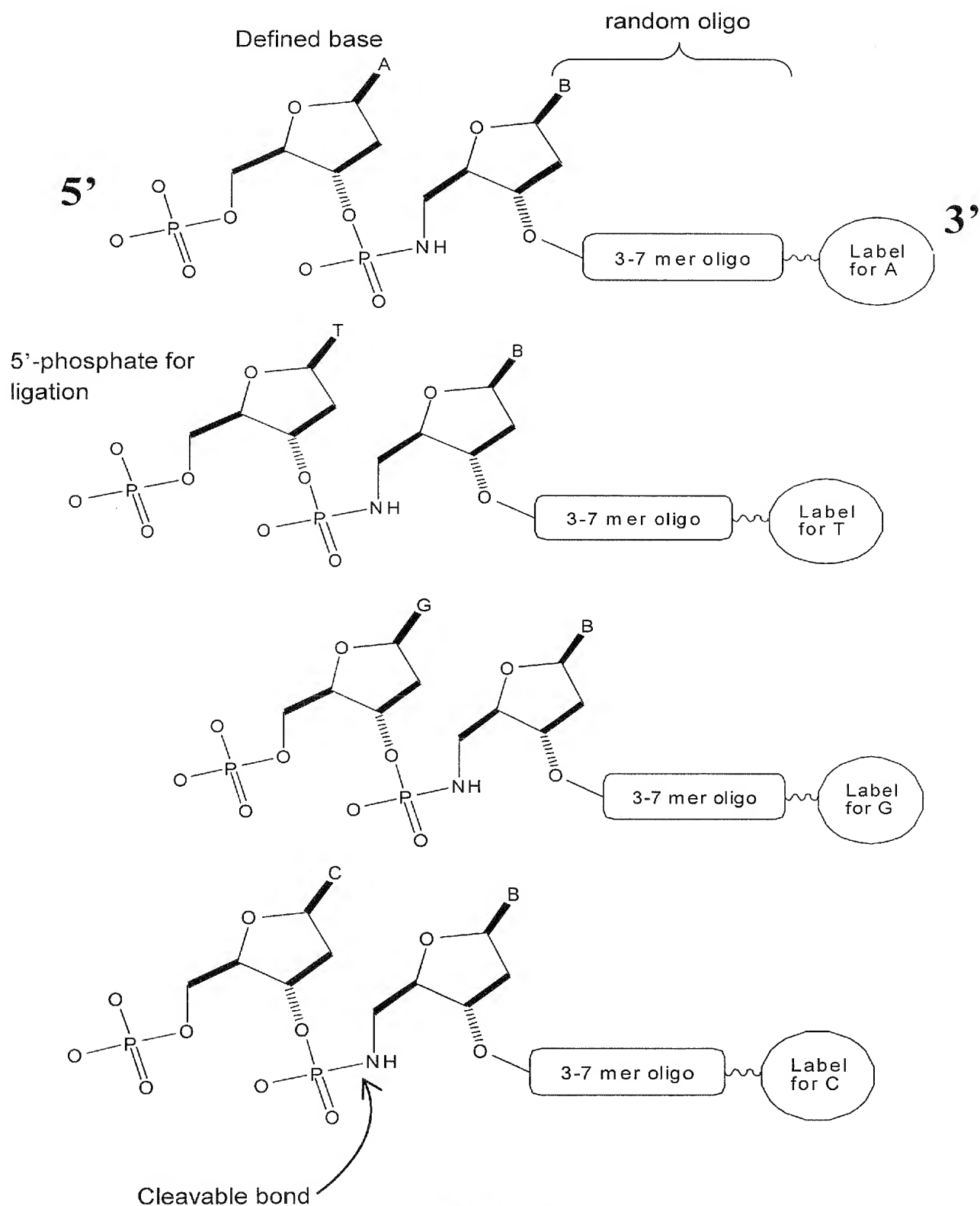
Chemical reaction scheme showing the extension of a DNA primer by DNA Polymerase. The reaction involves a primer, a template, and a pyrophosphate (PPi) containing a quencher. The pyrophosphate is linked to a base (R) via a cleavable bond. The reaction is catalyzed by DNA polymerase, resulting in the extension of the primer and the release of a pyrophosphate containing a quencher. The quencher is attached to the base (R) via a cleavable bond.

R = Fluorescent label / terminator attached via a cleavable bond to Base or 3' position



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Scheme 1, Four groups of chemically synthesised randomised oligos for ligation

**FIG. 6**

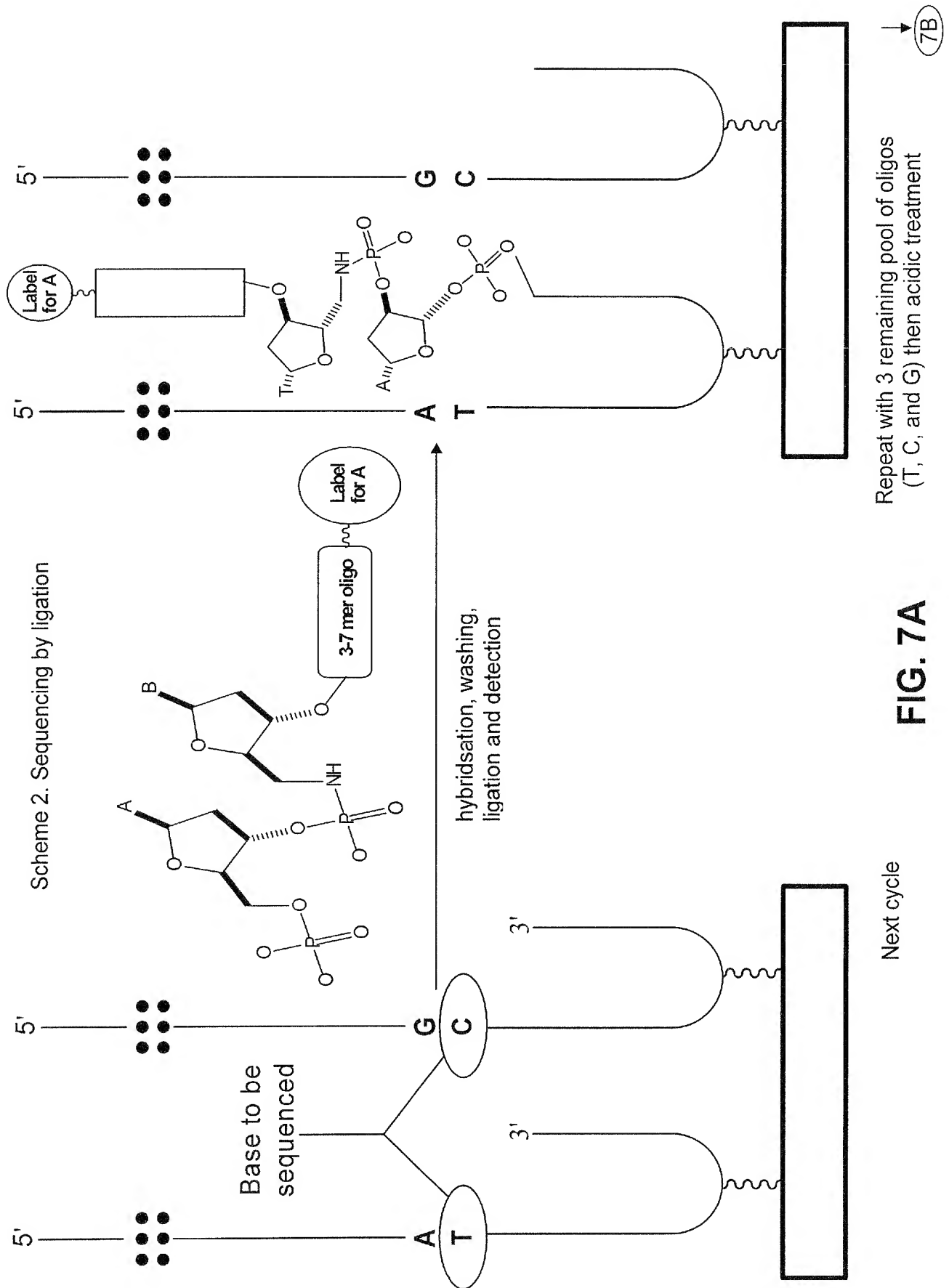


FIG. 7A

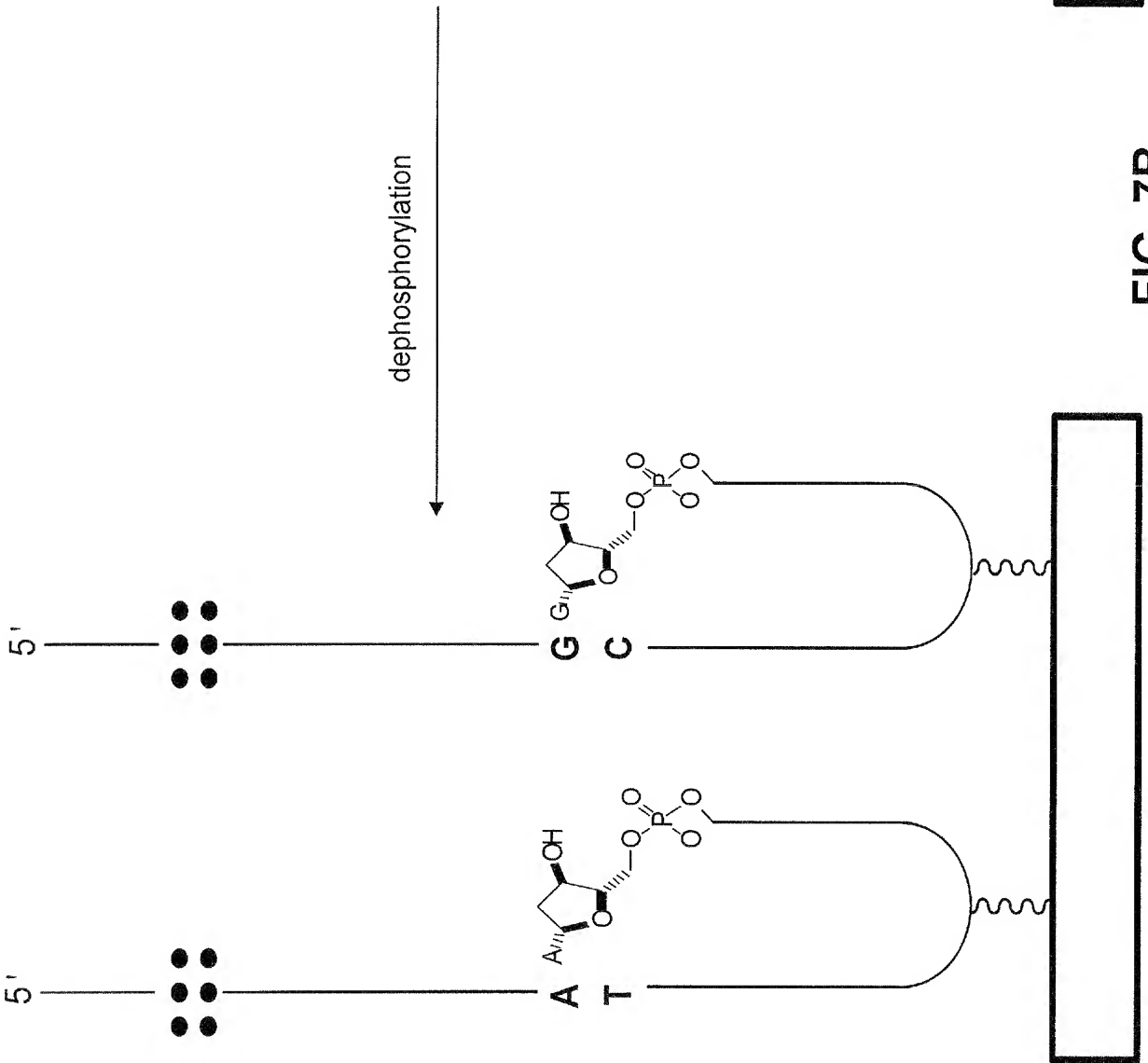


FIG. 7B

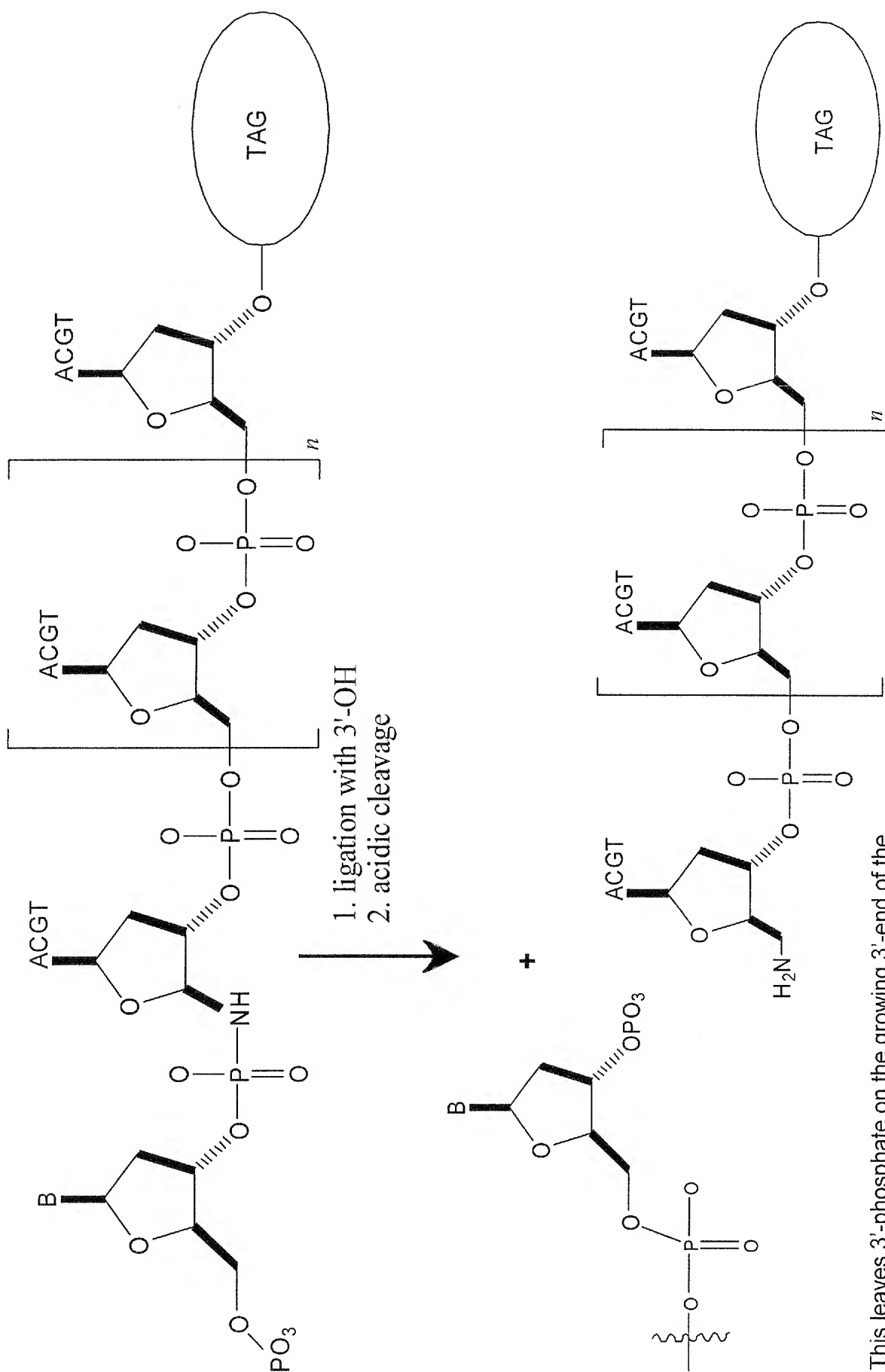


FIG. 8A

This leaves 3'-phosphate on the growing 3'-end of the primer, which needs to be removed.

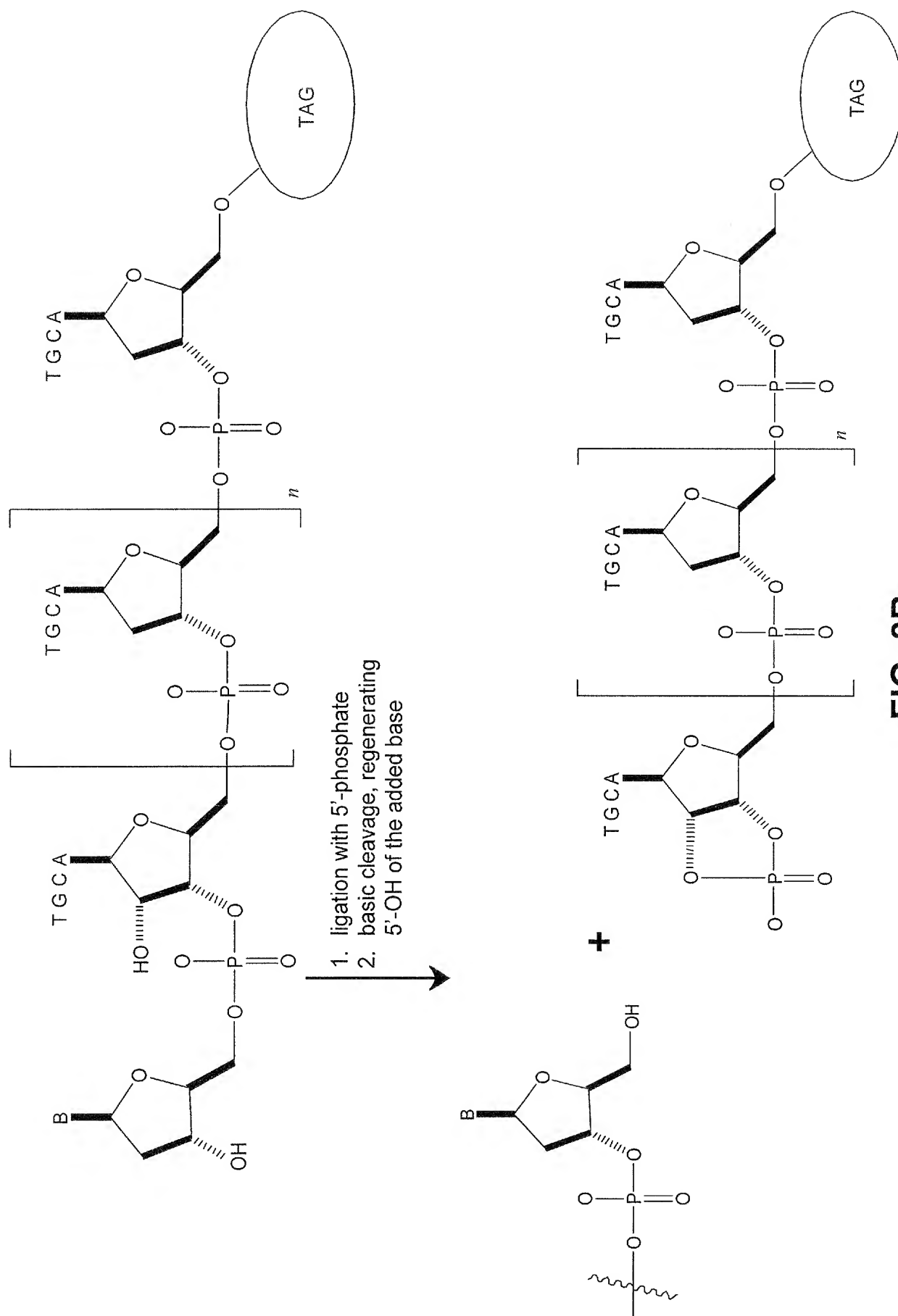


FIG. 9

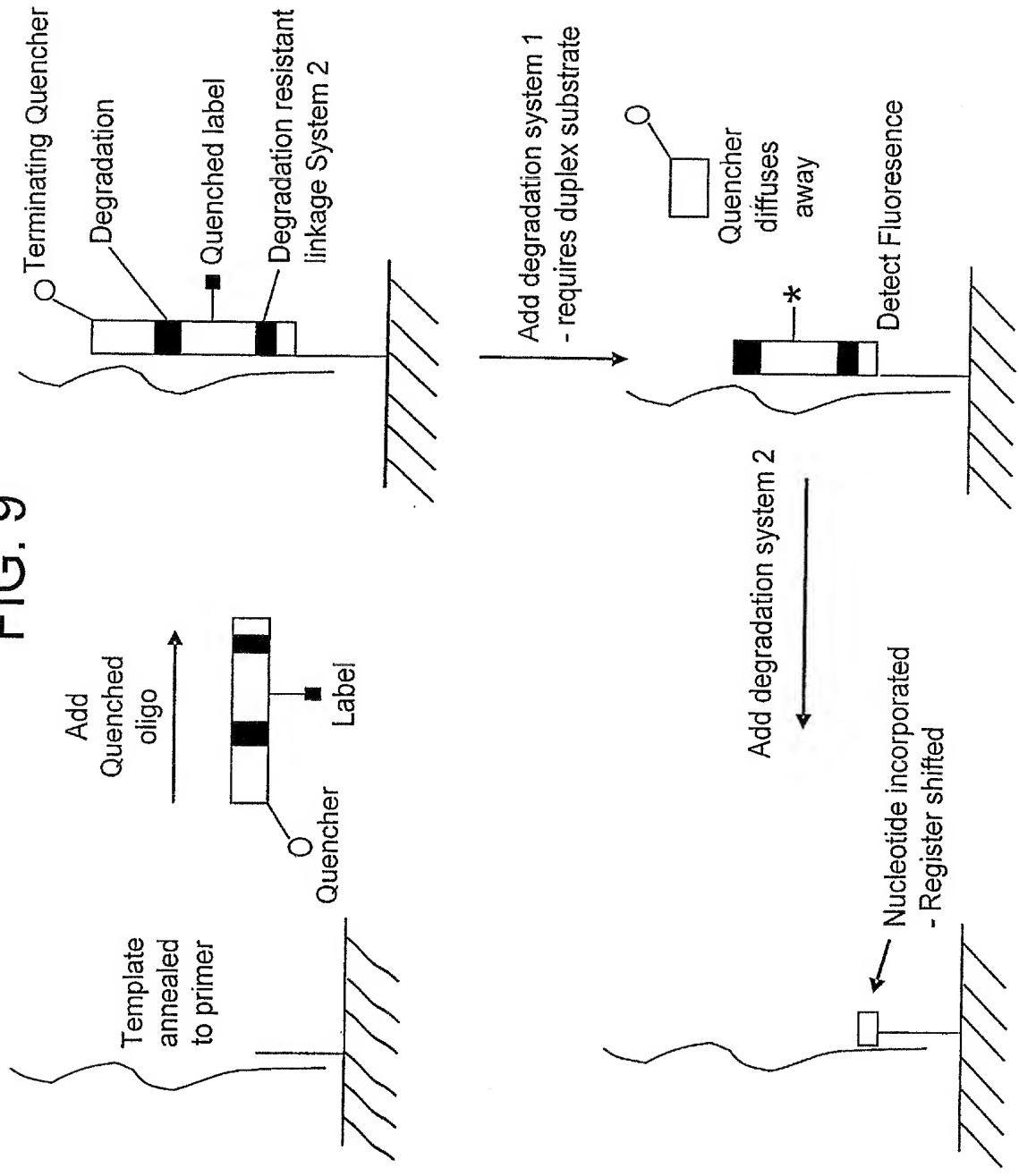


FIG. 10

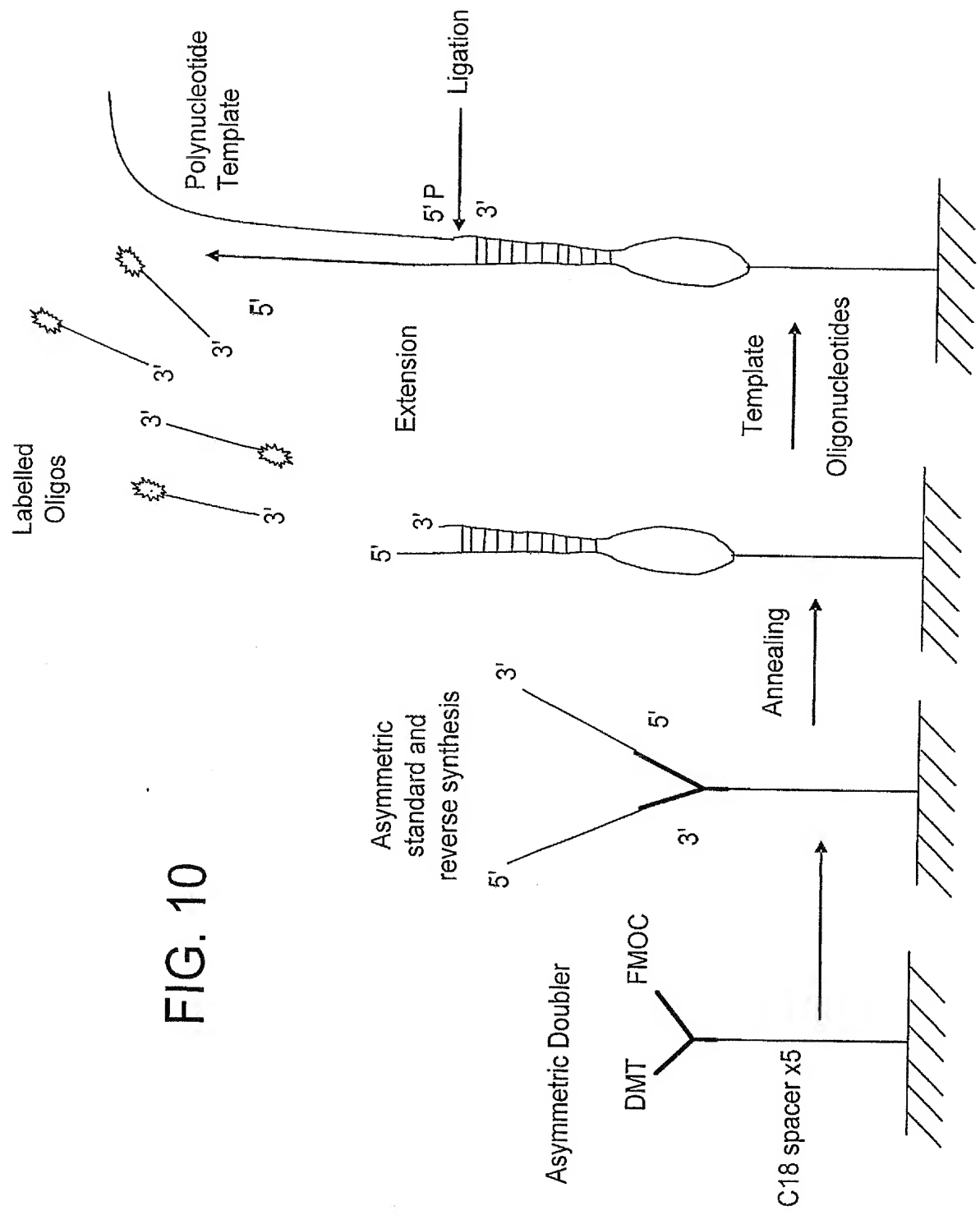


FIG. 11

